

NOTES ON A SMALL COLLECTION OF MYRIAPODS FROM THE
BERMUDA ISLANDS.

BY CHARLES H. BOLLMAN.

The following species, which were collected by Prof. Heilprin in the summer of 1888, although limited in number, show the diverse origin of the Myriapod fauna of the Bermuda Islands. Heretofore *Julus moreleti* has only been found in the Azores Islands; *Mecistocephalus guildingii* in the West Indies; *Lithobius lapidicola* in Europe; and *Spirobolus heilprini*, by having scobina, shows its West Indian and not African origin, for all found in the latter continent belong to the subgenus *Spirobolus* from which scobina are absent.

These four species, including a specimen of *Scolopendra subspinipes* which I have in my collection, are all that as yet have been reported from the Bermuda Islands.

I desire to express my thanks to Prof. Angelo Heilprin, of the Acad. Nat. Sciences of Philadelphia, for the privilege of examining this collection of Myriapods.

1. *Spirobolus heilprini*, sp. nov.

Diag.—Related to *Spirobolus flavocinctus* Karsch., but the segments very distinctly segmented, anterior part not striate; antennæ and legs reddish-brown.

Type.—Museum Acad. Nat. Sci. Phil. Greenish-black, posterior margin of segments rufous; antennæ and legs reddish-brown. Slender, anterior segments scarcely attenuated. Vertex smooth, sulcus shallow; clypeus only moderately emarginate, foveolæ 2 + 2, distant, sulcus sub-continuous with vertical. Antennæ rather slender, reaching second segment in both sexes. Ocelli arranged in a suboval or subtriangular patch, 45–55, in seven or eight series. Segments not smooth; posterior parts above with short and wavy, beneath with short and straight striæ; median part with a transverse sulcus which ends above repugnatorial pore; posteriorly above with a few striæ, beneath almost smooth or with a few weak oblique striæ. Lateral lobes of first segment rounded, a weak marginal sulcus. Anal segment with a flat, thick mucro, which passes beyond valves; anal valves weakly margined, not punctate; anal scale obtusely angled. Repugnatorial pore placed on anterior division, small and rather deep set. Legs extending slightly beyond

sides of body. Male: slenderer than female; coxæ of 3, 4, 5th, pairs of legs produced into short lobes; tibia and first two tarsal joints beneath with an oval roughened lobe; joints of anterior legs short and thick, third and fourth pairs of legs strongest; tarsi without a pad; ventral plate of copulation-foot triangular as high as foot, its base not concave, its posterior surface ridged, thus making the plate of a triangular-pyramidal form; anterior part of first foot not as high as ventral plate, triangularly pointed, the ventral plate ridge separating them; posterior part of anterior foot as high as ventral plate, its apex with a short blunt lobe on its posterior surface; posterior copulation-foot bifid, projecting out of the opening, the upper branches flattened and fan-shaped at its end, which is convex; lower branch elongate-lanceolate, its upper edge serrate, basal part of foot rectangular and white, while the upper part is yellowish.

Segments male, 46; female, 44.

Length 52^{mm}, width 3·8^{mm}–4·2^{mm}

This species is described from six broken and badly preserved specimens. In the type of copulation-foot it resembles that of *arboreus* and *dugesii*, and it is very probable that all the species belonging to this group have the same type, *i. e.* the ventral plate triangular and as high as posterior part of anterior part, while the anterior part is less, the posterior foot bifid and projecting out of the opening.

I have named this species after Prof. Angelo Heilprin, of the Academy of Natural Sciences of Philadelphia.

2. *Julus moreleti* Lucas.

In the collection are a number of female specimens, which I refer to this species. It has only been found in the Azores Islands.

These specimens have the striae of the anterior division of the segments not so irregular as represented in Porath's figure of this species.*

Segments 42–49. Adult almost black, legs reddish-brown; young dusky, with a lateral row of black spots and a medium black dorsal line, bordered with yellowish.

3. *Mecistocephalus guildingii* Newport.

Three specimens. These are so moulded and broken that it is almost impossible to make much out; but in the characters of the head, they seem to be identical with the West Indian species.

*Am. några Myriopoder från Azorerna. Öfver. Kongl. Vet. Akad. Forh., Stockh., 820, 1870.

4. *Lithobius lapidicola* Meinert.

Two specimens, male and female. Joints of antennæ 26; ocelli 8 or 9, in three series; coxal pores male 2, 3, 3, 2, female 3, 4, 4, 3; spines of first pair of legs, 0, 1, 1; of penultimate pair, 1, 3, 3, 1; of anal pair, 1, 3, 2, 0; spines of female genitalia stout, claw very distinctly tripartite, middle lobe not much longer; length male 7^{mm}; female 8^{mm}.

It is very probable that these specimens are not identical with *L. lapidicola*, a European species; but as they are rather mutilated, I have hesitated to describe them as new.

MAY 7.

The President, Dr. JOSEPH LEIDY, in the chair.

Fifty persons present.

The following papers were presented for publication:

"Catalogue of the Asteroidea and Ophiuroidea in the collection of the Academy of Natural Sciences of Philadelphia," by J. E. Ives.

"Provisional List of the Plants of the Bahama Islands," by John Gardiner and L. J. K. Brace.

The Proceedings of the Botanical Section having precedence the following communications were made:—

On the Use of the Bambusa Stem, in Incandescent Electric Lighting.—PROF. W. M. P. WILSON stated that the ordinary exogenous woods are not adapted to the construction of the filament for want of a homogeneous structure. Such woods are made up of wood-cells of varying lengths and shapes in combination with a variety of ducts and vessels.

The walls of the wood-cells may be more or less thickened, the vessels and ducts may be larger or smaller, numerous or infrequent according to the kind of wood examined. There are always enough of these vessels and ducts combined with the wood-cells in any stem to render the structure exceedingly heterogeneous. Most of these cells and vessels have their longer diameter parallel with the general direction of the stem. Groups of thin walled, prismatic cells pass radially from the central portion of the stem to the circumference. These groups of cells are called medullary rays. It is impossible to cut a filament from any of these woods and so cut it that the medullary rays will not cross it many times at right angles to the ducts and long cells. The character of the cells forming these rays is so very different from the others in the filament, both as to shape, direction, and thickness of the walls, that at the